IoT Based Safety Gadgets for Child Safety Monitoring and Notification

Team ID :PNT2022TMID54268

PREREQUISITES:

IBM Cloud Services:

- IBM Watson IoT Platform
- Node-RED Service
- Cloudant DB

1) IBM Watson IoT platform:

IBM Watson IoT Platform is a managed, cloud-hosted service designed to make it simple to derive value from your Internet of Things devices.

STMicroelectronics is an IBM Partner and provides development platforms allowing users to develop applications with direct connection to the IBM Watson IoT platform.

By using the Watson IoT Platform, you can collect connected device data and perform analytics on real-time data.

The IBM Watson IoT Platform is a fully managed, Cloud-hosted service that provides device management capabilities as well as data collection and management in a time series format.

The Lite service plan provides a free, lightweight development environment to get you started with the connectivity capabilities of the Watson IoT Platform.

2) NODE-RED SERVICE:

Node-RED is a programming tool for wiring together hardware devices, APIs, and online services in new and interesting ways.

It provides a browser-based editor that makes it easy to wire together flows using the wide range of nodes in the palette that can be deployed to its runtime in a single click.

Node-RED is an open-source programming tool, for connecting hardware devices, APIs, and online services creatively and easily.

Node.js is a cross-platform, open-source JavaScript runtime environment (JRE) that allows building JavaScript programs for the server side.

Node.js is more than a decade old now and runs on the V8 engine.

While many consider Node.js to be only a backend framework, this technology also can be wont to build the front end.

Most software engineers consider Node the most exciting single piece of software within the current JavaScript universe.

Basic commands one should know to start using Node-Red

- **target - Set or view the target URL and port like http://localhost:1880**
- **login - Log the user into the target of the Node-RED admin API**
- **list - List all of the installed nodes**
- **info - Display more information about the module or node**
- **enable - Enable the specified module or node set**
- **disable - Disable the specified module or node set**
- **search - Search for Node-RED modules to install**
- **install - Install the module from NPM to Node-RED**
- **remove - Remove the NPM module from Node-RED**
- **hash-PW - Create a password hash that can be used with the admin auth and httpNodeAuth settings**

Key benefits of using Node.js:

1. **Node.js is superb for calling other services. For the bulk of apps, it's critical to form communication with the database and platform API seamlessly.**
2. **Node.js increases performance and handles tons of requests. For the client side, it's very useful, practical, and fast because it demands users to form fewer clicks and have everything loaded directly.**
3. **Node.js overcomes large processing challenges.**

4. Node.js enables development teams to use JavaScript both for the server and therefore the browser.

5. Smooth, fast UI and customization are feasible with Node.js. And Netflix here may be a true winner with one of the foremost successful UI ever.

6. Node.js features a large and active community of engineers who constantly contribute and improve the technology.

7. Extensive NPM offers tons of ready-made solutions engineers can use.

8. Node.js is straightforward.

9. It'sgreat for startups as they will enjoy faster development and faster entering the market with their products.

Use Node-Red services:

Node-RED is a programming tool for wiring together hardware devices, APIs, and online services in new and interesting ways.

It provides a browser-based editor that makes it easy to wire together flows using the wide range of nodes in the palette that can be deployed to its runtime in a single click.

3) Cloudant document database:

Cloudant is an IBM software product, which is primarily delivered as a cloud-based service. Cloudant is a non-relational, distributed database service of the same name.

Cloudant is based on the Apache-backed CouchDB project and the open-source BigCouch project.

IBM Cloudant is a fully managed JSON document database that offers independent serverless scaling of throughput capacity and storage.

A fully managed, distributed database optimized for heavy workloads and fast-growing web and mobile apps, IBM Cloudant is available as an IBM Cloud® service with a 99.99% SLA.

Cloudant is accessed through an HTTP API. You can see the different parts that you use to connect to IBM Cloudant in the following list:

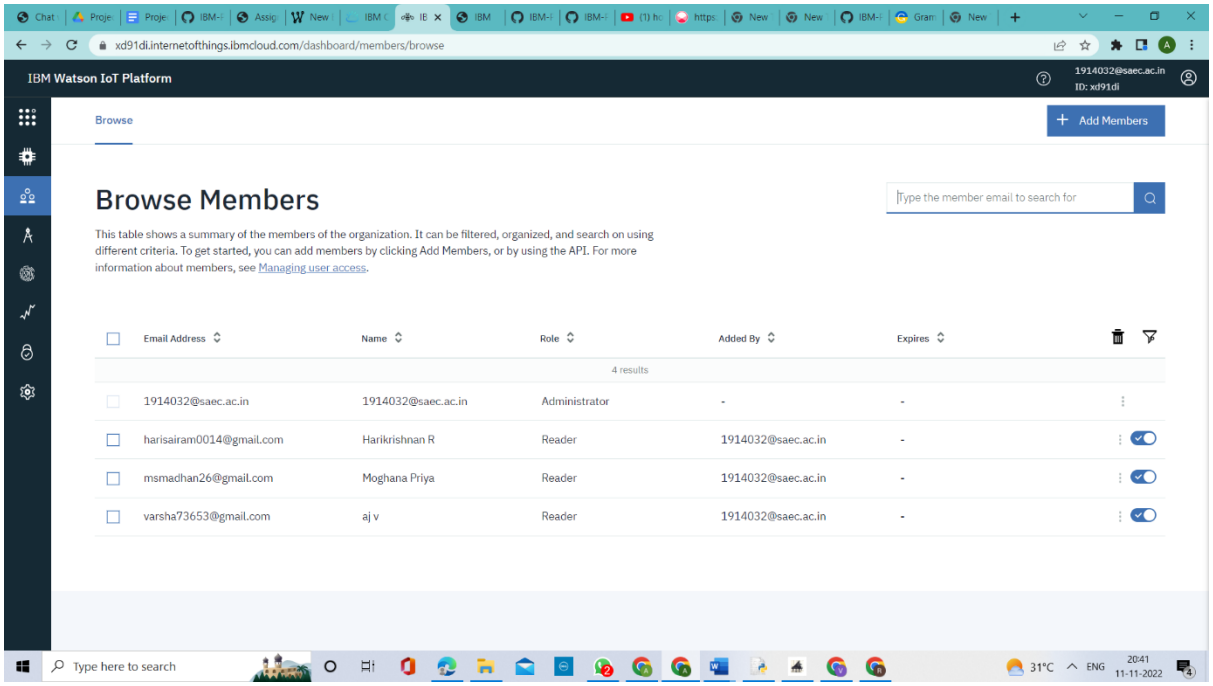
1. Endpoints

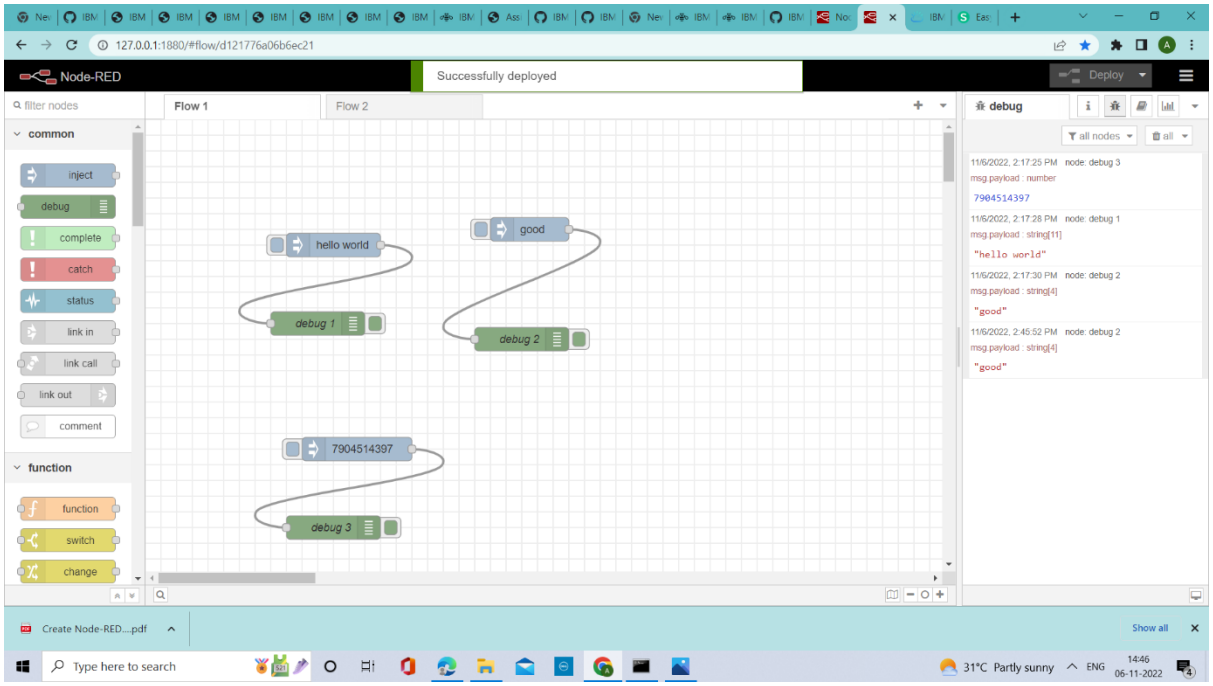
2.Service Credentials

3. Authentication

4. Accessing the IBM Cloudant Dashboard

5. Programmatically accessing IBM Cloudant by using curl or client libraries


xd91di.internetofthings.ibmcloud.com/dashboard/members/browse
IBM Watson IoT Platform
1914032@saec.ac.in
ID: xd91di
Browse
Add Members
Browse Members
Type the member email to search for
This table shows a summary of the members of the organization. It can be filtered, organized, and search on using different criteria. To get started, you can add members by clicking Add Members, or by using the API. For more information about members, see Managing user access.
Email Address
Name
Role
Added By
Expires
4 results
1914032@saec.ac.in
1914032@saec.ac.in
Administrator
harisairam0014@gmail.com
Harikrishnan R
Reader
msmadhan26@gmail.com
Moghana Priya
varsha73653@gmail.com
aj v
Type here to search
31°C
ENG
20:41
11-11-2022


127.0.0.1:1880/#flow/d121776a06b6ec21
Node-RED
Successfully deployed
Deploy
Flow 1
Flow 2
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
change
hello world
good
debug 1
debug 2
7904514397
debug 3
debug
11/6/2022, 2:17:25 PM node: debug 3
msg.payload : number
7904514397
11/6/2022, 2:17:28 PM node: debug 1
msg.payload : string[11]
"hello world"
11/6/2022, 2:17:30 PM node: debug 2
msg.payload : string[4]
"good"
11/6/2022, 2:45:52 PM node: debug 2
msg.payload : string[4]
"good"
Create Node-RED....pdf
Show all
Type here to search
31°C Partly sunny
ENG
14:46
06-11-2022